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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,132	07/24/2001	Tse-Hua Lan	US 010341	4007

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EXAMINER

PARSONS, CHARLES E

ART UNIT PAPER NUMBER

2613

DATE MAILED: 04/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/912,132

Applicant(s)

LAN ET AL.

Examiner

Charles E Parsons

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 and 10-12 rejected under 35 U.S.C. 103(a) as being unpatentable over Choi in view of Campisano.

Claim 1, 10-12: A method for decoding a video bitstream at a first resolution, comprising the steps of:

Producing residual error frames at a second lower resolution; (See Choi figure 5 item 54.)

Producing motion compensated frames at the second lower resolution; (See Choi figure 5 item 56 and 58)

Combining the residual error frames with the motion compensated frames to produce video frames; (See Choi figure 5 item 59)

Up-scaling the video frames to the first resolution. (While Choi does not teach up-scaling the video frames to the first resolution, he does teach the use of a format selecting circuit.

See Choi column 9 lines 28-47. Furthermore, Campisano teaches that once the decoding is done, the output to the display, shown in figure 5 item 92, can be up-

sampled. Therefore, it would have been obvious to one of ordinary skill in the art, to up-scale to the higher resolution after decoding is done in order to get the desired picture quality.

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Claim 2. The method of claim 1, wherein the producing residual error frames includes performing an 8X8 inverse discrete transform to produce pixel values. (While figure 5 item 54 shows a 4x8 IDCT he clearly teaches that the desired resolution is directly related to the size of the block. See column 2 table 1. Therefore it would have been obvious to use an 8X8 or 4X4 or 2X2 depending on the desired resolution.

Claim 3. The method of claim 2, wherein the pixel values are sampled at a predetermined rate. (It is well known in the art that a sampling rate must be predetermined. Official notice served.)

Claim 4. The method of claim 1, wherein the producing residual error frames includes performing a 4X4 inverse discrete transform. (See claim 2 rejection)

Claim 5. The method of claim 1, wherein the producing motion compensated frames includes scaling down motion vectors by a predetermined factor to produce scaled motion vectors. (See Choi table 2 in column 2 clearly teaching that the motion vectors must be scaled accordingly.)

Claim 6. The method of claim 5, wherein motion compensation is performed based on the scaled motion vectors. See Choi table 2 in column 2.

3. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi and Campisano as applied to claim 1 above, and further in view of Vetro.

Claim 7. The method of claim 1, wherein the up-scaling is performed by a technique selected from a group consisting of repeating pixel values and linear interpolation.

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Claim 8. The method of claim 1, wherein the up-scaling is performed in a horizontal direction.

Claim 9. The method of claim 1, wherein the up-scaling is performed in a same direction as down scaling in the residual error frames.

As for claims 7-9 Campisano clearly teaches in column 10 lines 5-20 that scaling can be done by any factor in either the horizontal and vertical direction and is done by interpolation.

While he is teaching this in the dissemination stage, Vetro teaches that up-scaling is done as an inverse to down scaling. He also teaches up-scaling in both the horizontal and vertical directions. Therefore it would have been obvious to one of ordinary skill in the art to upscale in the same manner in which the downscaling was done.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E Parsons whose telephone number is 703-305-3862. The examiner can normally be reached on M-TH 7AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 703-305-4856. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

CEP
April 10, 2003


CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600